Amendments to the Drawing(s):

The attached sheet of drawings includes changes to Figures 2a-d. This sheet replaces the original sheet showing Figures 2a-d. In this new sheet, Figures 2a-d have been designated by the legend --Prior Art--.

REMARKS

By this Amendment, claims 1, 2, 7-9, 11, 16-21, 24, 25, 28-37, and 43-48 have been amended to recite the claimed subject matter without the intention of narrowing any of the claims. Applicant has amended the currently pending claims in order to expedite prosecution and do not, by this amendment, intend to abandon subject matter of the claims as originally filed or later presented. Moreover, Applicant reserves the right to pursue such subject matter in a continuing application. No new matter has been added. Claims 1-52 are pending in this patent application. Reconsideration of the rejections in view of the remarks below is requested.

Figures 2a-d were objected to for failing to label them with the legend --Prior Art--. In response, the drawings have been amended in the manner suggested by the Examiner. Namely, Figures 2a-d have been designated by the legend --Prior Art--. A replacement sheet including the changes to Figure 2a-d is enclosed herewith. Accordingly, reconsideration and withdrawal of the objection to the drawings are respectfully requested.

The Office Action rejected claims 1, 18, 25 and 29 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Office Action argues that the "being limited to less than a maximal value" in claims 1 and 18 and "limited to a maximum" in claims 25 and 29 is vague and indefinite. Claims 1, 18, 25 and 29 have been amended to recite the invention without the intention of narrowing the scope of the claims. The claims as originally presented and now amended clearly circumscribe the value – an absolute value of a fourth, a higher than fourth, or both, derivative to time of the position the value limited to less than arbitrary finite value that is a maximum. Accordingly, reconsideration and withdrawal of the rejection of claims 1, 18, 25 and 29 under 35 U.S.C. §112, second paragraph are respectfully requested.

The Office Action rejected claims 1-52 under 35 U.S.C. §103(a) as being obvious in view of U.S. patent no. 6,809,798 to Fujita ("Fujita") further in view of U.S. patent no. 6,294,891 to McConnell et al. ("McConnell et al."). Applicant respectfully traverses the rejection, without prejudice.

Applicant respectfully submits that the cited portion of Fujita and/or McConnell et al. fail to disclose, teach or suggest a lithographic projection apparatus comprising, *inter alia*, a controller configured to provide a motion signal to the actuator, the motion signal controlling

the actuator to produce a motion of the support structure, the substrate table, or both, an absolute value of a fourth, a higher than fourth, or both, derivative to time of the position of the motion being limited to less than a maximal finite value as recited in independent claim 1, a lithographic projection apparatus comprising, *inter alia*, an actuator configured to move a part of the lithographic apparatus in at least one degree of freedom in accordance with a set-point signal for a desired position of the part, a fourth, a higher than fourth, or both, derivative to time of the set-point signal being limited to a boundary as recited in independent claim 17, a computer program product comprising, *inter alia*, software code configured to generate motion data used to control an actuator to produce a motion of the support structure, the substrate table, or both, an absolute value of a fourth, a higher than fourth, or both, derivative to time of the position of the motion being limited to less than a maximal finite value as recited in independent claim 18, and a device manufacturing method comprising, *inter alia*, actuating a mask table, a substrate table, or both, of a lithographic apparatus in at least one degree of freedom using a set-point signal for the desired position of the mask table, the substrate table, or both, a fourth, higher than fourth, or both, derivative to time of the set-point signal being limited to a finite maximum as recited in claim 25.

Applicant submits that Fujita fails to provide a disclosure, suggestion or teaching regarding a fourth, higher than fourth, or both, derivative to time of the position of a motion or of a set-point signal, let alone, as the Office Action admits, a fourth, higher than fourth, or both, derivative to time of the position of a motion or of a set-point signal being limited to less than a maximal finite value, a boundary, or a finite maximum. To overcome this deficiency, the Office Action relies on McConnell et al. However, Applicant submits that the cited portions of McConnell et al. fail to overcome the deficiency of Fujita.

The Office Action points to col. 29, lines 17-37 and Figure 38D of McConnell et al. as providing the disclosure, teaching or suggestion for a fourth, higher than fourth, or both, derivative to time of the position of a motion or of a set-point signal limited to less than a maximal finite value, a boundary, or a finite maximum. However, Applicant respectfully submits that the motion profiles shown in Figure 38D of McConnell et al., and described at col. 29, lines 17-37 of McConnell et al., are substantially similar to the profiles shown in Figures 2a-2d of the present application (a difference being that Figures 2a-2d include some extra periods of constant velocity and constant acceleration). Thus, the fourth derivative to time of McConnell et al. (shown as the top graph in Figure 38D of McConnell et al.) is not less than or equal to a maximal finite value, a boundary or a finite maximum, rather the

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fourth derivative to time of McConnell et al. goes to infinity (in view of the slopes of the third derivative to time shown in the second from the top graph in Figure 38D). Moreover, there is no disclosure in the cited parts of McConnell et al. that discloses, suggests or teaches a fourth, higher than fourth, or both, derivative to time of the position of a motion or of a set-point signal being limited to less than a maximal finite value, a boundary, or a finite maximum. Thus, the cited portions of Fujita and/or McConnell et al. fail to disclose, teach or suggest independent claims 1, 17, 18 and 25.

Further, Applicant respectfully submits that the cited portions of Fujita and/or McConnell et al. fail to disclose, teach or suggest a lithographic projection apparatus comprising, *inter alia*, a controller configured to provide a motion signal to the actuator, the motion signal controlling the actuator to produce an acceleration of the support structure, the substrate table, or both, having a high third, higher than third, or both, derivative to time of the position of the motion at a start portion of the acceleration and a corresponding low third, higher than third, or both, derivative to time of the position of the motion at an end portion of the acceleration, the absolute value of the high third, higher than third, or both, derivative to time of the position of the motion being larger than the absolute value of the corresponding low third, higher than third, or both, derivative to time of the position of the motion as recited in independent claim 30 and a computer program product comprising, *inter alia*, software code configured to generate motion data used to control an actuator to produce an acceleration of the patterning device support structure, the substrate table, or both, having a high third, higher than third, or both, derivative to time of the position of the motion at a start portion of the acceleration and a corresponding low third, higher than third, or both, derivative to time of the position of the motion at an end portion of the acceleration, the absolute value of the high third, higher than third, or both, derivative to time of the position of the motion being larger than the absolute value of the corresponding low third, higher than third, or both, derivative to time of the position of the motion as recited in independent claim 43.

The Office Action admits that Fujita fails to disclose, teach or suggest an acceleration of the patterning device support structure, the substrate table, or both, having a high third, higher than third, or both, derivative to time of the position of the motion at a start portion of the acceleration and a corresponding low third, higher than third, or both, derivative to time of the position of the motion at an end portion of the acceleration, the absolute value of the high third, higher than third, or both, derivative to time of the position of the motion being

larger than the absolute value of the corresponding low third, higher than third, or both, derivative to time of the position of the motion. To overcome this deficiency, the Office Action relies on McConnell et al. However, Applicant submits that the cited portions of McConnell et al. fail to overcome the deficiency of Fujita.

The Office Action points to col. 29, lines 17-37 and Figure 38D of McConnell et al. as providing the relevant disclosure, teaching or suggestion. However, Applicant respectfully submits that the motion profiles shown in Figure 38D of McConnell et al., and described at col. 29, lines 17-37 of McConnell et al., are substantially similar to the profiles shown in Figures 2a-2d of the present application (the only difference being that Figures 2a-2d include some extra periods of constant velocity and constant acceleration). Thus, the acceleration of McConnell et al. (shown as the third from the top graph in Figure 38D of McConnell et al.) does not have a high third derivative of time at a start portion of the acceleration and a low third derivative of time at an end portion of the acceleration (shown as the second from the top graph in Figure 38D of McConnell et al.) where the absolute value of the high third derivative of time is larger than the low third derivative of time. There does not appear to be any difference in the absolute values of the third derivatives of time at the start or end portions of the acceleration in Figure 38D of McConnell et al. Thus, the cited portions of Fujita and/or McConnell et al. fail to disclose, teach or suggest independent claims 30 and 43.

Therefore, for at least the above reasons, the cited portions of Fujita and/or McConnell et al. fail to disclose, teach or suggest all the features recited by independent claims 1, 17, 18, 25, 30 and 43. Claims 2-16 depend from independent claim 1, claims 19-24 depend from independent claim 18, claims 26-29 depend from independent claim 25, claims 31-42 depend from claim 30, and claims 44-52 depend from claim 43 and are, therefore, patentable for at least the same reasons provided above related to respectively claims 1, 18, 25, 30 and 43, and for the additional features recited therein. As a result, Applicant respectfully submits that the rejection under 35 U.S.C. §103(a) of claims 1-52 in view of Fujita and/or McConnell et al. should be withdrawn and the claims allowed.
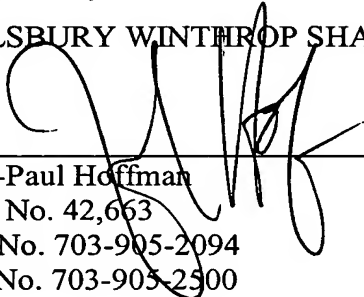
All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance. If questions relating to patentability remain, the Examiner is invited to contact the undersigned to discuss them.

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Should any fees be due, please charge them to our deposit account no. 03-3975, under our order no. 081468/0304891. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced deposit account.

Respectfully submitted,

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